THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. II.] Copyright, 1877, JAMES R. OSGOOD & CO. [NO. 102.

BOSTON, DECEMBER 8, 1877.

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THE progress of the new City Buildings at Philadelphia has been for some time at a standstill, owing to the deadlock between the Commissioners and the city Councils. When the building was proposed, the State Assembly, it will be remembered, took the administration of it out of the hands of the city, ahd gave it to a permanent board of commissioners. The building, which was undertaken during the flush times that followed the war, on a scale of great splendor, has proved since times grew hard a heavy burden, and the Councils have of late refused to vote money for it. Of their refusal to lay the special tax appointed by the Assembly, which was to be levied on the requisition of the Commissioners, and of the suit of Messrs. Struthers, the contractors for the marble-work, for payments authorized by the Commission, with the decision of the court that the city was bound to honor the warrants of the Commission, we have given some account (*American Architect*, June 23 and 30, 1877). Since the discussion of last spring, the uneasiness of the tax-payers and the resistance of the Councils and the newspapers have continued and increased. The Commissioners have within a few days sent a communication to the Councils containing a report of the condition of the buildings, and have followed up their last two disregarded requisitions with another for the year 1878. At the same time the Messrs. Struthers, relying on the liability of the city for their as yet unfulfilled contract, seem to have gone on in spite of their unpaid warrants, furnishing marble which, as the city provides no money to set it, accumulates without being used. This time the Commission find that most of the press of the city is arrayed against them; and their reminder that they have bound the city to a contract for five and a quarter million dollars, of which three millions is yet to come due, is received with especially bad grace. "At present," says the *Press*, "when the treasury lives by disgraceful warrants, and tax-payers are disheartened by the depreciation of their property, there is only one thing to do, and that is to stop spending money needlessly." Views differ as to what is spending needlessly, and the Commissioners do not seem disposed to abet in not spending; so that it looks as if the only resource were a resort to the Assembly, which gave the city its charter and the Commissioners their authority. To this the newspapers are disposed to appeal, and wish to abolish the Commissioners.

THE Commission report that most of the first story, thirty-three feet high above the basement, is built, and the exterior faced with marble, as is almost all the interior court. The main entrances on the south and west are finished, and their stone ceilings protected by temporary roofs. The east entrance is nearly done, and the northern one begun. The whole contract with Messrs. Struthers is $5,300,000, of which $1,721,000 has been liquidated, partly with unpaid warrants; and if half a million is allowed for setting the marble, there remain still three millions which the city is bound to pay for the rest of the marble and cutting, whether it chooses to use it or not. The Commissioners' requisition for 1878 is: salaries and expenses, $33,750; brick-work, $190,000; iron-work, $107,500; marble-work, $650,000; cut stone for interior work, $188,000; and carpenters' and other work which makes up the amount to a million and a quarter, that is, about a dollar and a half *per capita* for the inhabitants of Philadelphia. The suspension of the work during this year, the Commissioners say, has done great damage to what has already been built. They have not had means either to continue the brick-work of the walls, or to protect what is done. The exposed brick-work has already been soaked with water to the depth of several courses, and is liable to great injury from the winter frosts. Much of the finely wrought stone-work of the entrances is unprotected. The Commissioners add that if their warrants had been honored during the last year to the amount of half a million dollars, many of the officers and departments of the city might have been provided for the coming year with quarters in the building.

THE *Chicago Tribune* has lately been making charges of over-measurement of the brick-work of the new Court House in that city, — which is now fairly under way again, after the long quarrel over it between the city and the county, and their several architects. This has drawn from the contractor, Mr. Sexton, a letter of defence, which the *Tribune* has the wickedness to print without the customary editorial emendation. We shall not attempt to weigh the merits of either attack or defence, which are not matters of general interest; but the letter contains statements which are worth noticing for the illustration they give of some of the evils of current practice. Mr. Sexton says, for instance, that his contract was first awarded for common brick laid in lime mortar, and every third course grouted, at a price of seven dollars (a little less) per thousand laid. Since, however, Mr. Sexton's estimate was much lower than had been expected, — some fifty thousand dollars lower than the average bid, — it was concluded that the County could afford to raise the quality of the work by substituting selected (sewer) brick for common, by using cement mortar, and by grouting every course, which, says Mr. Sexton, means the very best class of work, and for which an additional three dollars per thousand was allowed.

THIS gives one a queer idea of the kind of brick-work which the architect thought good enough, and which we may assume the County would have been willing in the first place to accept, for a great public building. Common brick, which always means the commonest, — and the bricks of Chicago are not of good renown, — were to be laid as workmen lay brick when they expect to depend on grouting; and then only one course in three was to be grouted. People who are used to old-fashioned thoroughness of work, and to seeing every brick carefully bedded and settled into place with the trowel, are accustomed to look upon the grouting of brick-work as the invention of the enemy who finds some mischief still for idle hands to do, knowing that at its best it is only a weaker substitute for the solid filling of good mortar that thorough brick-work ought to have. How good work common brick grouted in every third course was likely to make, and what reason there is in the complaint of a correspondent in our last number, one may guess who has watched, as we have, a Western bricklayer spreading out an uneven bed of mortar ten or twelve feet long, on a wall built up in slices after the American fashion, then laying down his trowel, taking the bricks in both hands and pressing them down into the mortar, end to end, two at a time, till he got to the end of the mortar he had laid, then scraping off the protruding mortar from the face of the wall, and beginning the same process again. We do not know, to be sure, how common or how typical this way of working may be; but we have seen it on what ought to have been good work. It is perhaps not surprising, that in speaking of the change in his contract, Mr. Sexton should say, as he does somewhat naïvely, "In view of recent mishaps at the Rockford and Peoria Court Houses, it would seem this was a wise change;" or that distinction should be claimed for brick-work with "every course filled solid," even by grouting.

ANOTHER thing that comes out strongly in Mr. Sexton's letter is the vagueness of contractors' ordinary processes of measuring, by drawings at least, and the untrustworthiness of their estimates. "A majority of the building talent of the city, most of them experts in figuring out quantities," estimated from the plans; and the computations of the quantity of brick required varied, he says, from ten to eighteen millions. If Mr. Sexton's own estimate of cost, three hundred and twenty-eight thousand dollars, was fifty thousand dollars below the average, we may infer that the extreme variation among the bids for this work was not less than a hundred thousand dollars, or about thirty per cent of the contract price. Architects know that such a variation in estimates of cost is not an uncommon thing; and since this is the success of "experts in figuring out quantities," who make their living or their fortunes by their expertness, architects may perhaps take consolation for a general want of confidence in their own estimates, which are confessedly only approximate. There is no knowing, to be sure, what sort of plans the contractors had to figure from: we may suppose that they were ordinary floor-plans, elevations, and sections, and in so large a building very likely to the scale of eight feet to the inch. It is astonishing that builders should be willing to risk their fortunes on such uncertain information as their estimates betoken; the fact that they do so shows that their occupation involves an amount of hazard that cannot be any thing else than demoralizing. That a business community should be willing to assign its work under such conditions, is hardly less astonishing. How the difference between one contractor's estimate and another's is covered in the work, is always a matter of wonder. The difference in skill of management counts for a great deal, and herein lies the legitimate advantage of one contractor over another. The difference in workmanship is another factor of great importance, one which it is desirable to reduce to a minimum, but extremely difficult, if not impossible, to provide against. The difference in the estimates of material, of which we have just cited an excessive example, is a third element of uncertainty, which is unnecessary, and ought in the interest alike of the contractor, the client, and the work, to be eliminated. The contractor's estimate indicates of course the amount of material that he intends to put into the building he estimates for. But it is the architect's business to decide by his plans and details what the quantity actually used shall be; and since the contract is commonly awarded to the lowest bidder, the chances are that the quantity allowed for is generally below the mark. The difference must come out of the work or out of the contractor, neither of which is desirable. There are many reasons why it is not well that the architect should himself do, or be responsible for, the computing by which the actual amounts are deduced from his plans; but it is certain that it ought to be done by some person of accurate and uniform methods, who has full explanations from the architect, and who has no interest in either exaggerating or cutting down the amounts. This is the office of the English quantity-surveyor, and of the French *métreur*, of whom we are convinced that it would be a great advantage to establish the counterpart here. Our own method is, as a rough-and-ready method, very easy to apply, but very slovenly and uncertain, and tends to make competing for "jobs" not much better than gambling. The contractors are not fairly matched, and are put under the maximum temptation to do bad work. There are few things more demoralizing to a man's faithfulness than to urge him to fix the lowest possible price for a piece of work without knowing what he has to do. It is hard to see, in fact, that the contract system as we manage it is any thing better than a clumsy make-shift, and it is one, as we know, that often proves costly. Three hundred and twenty-eight thousand dollars is too much to pay for a pig in a poke.

THE reports presented at the opening meeting of the Architectural Association (of London) for this winter's session indicate that its last year's work has not been less successful than that of the Institute. The younger society has fairly outgrown the older, its members counting over eight hundred, while those of the Institute, as we said last week, were six hundred and thirty-five. The work to which the Association gives its chief energy is educational, work which the Institute has gradually abandoned to it altogether, while as becomes its seniority it retains the leadership in matters of professional practice and standing with the outside world. Our readers will remember the series of professional tours of the Association, set on foot by the late Mr. Sharpe, and conducted by him for two or three successive summers, which have been among the most interesting of the things accomplished by the Association. We are glad to read, by the way, that there is a likelihood that the records of these tours, and the drawings collected in them, will be published, a thing which it was feared had been made impossible by Mr. Sharpe's death. The Association maintains a library, publishes a serial sketch-book, and keeps up several classes for the instruction of architectural students, — a class of Design, a class of Elementary Design, a class for the study of Color Decoration, an Architectural Science class, a class of Construction and Practice, and a Surveying class. It has also established a branch at Birmingham.

THE President in his annual address touched especially on the subjects of articled pupils and of competitions. The custom which obtains in England of binding an architect's pupils to him for four or five years, he stigmatized as the bane of the profession; a revolutionary doctrine which he qualified by saying that the difficulty was in binding young men to permanent service before it was clear whether they were fit to become architects or not, and so filling up the profession with a great number of persons who would be better out of it. He would give every architectural student a year of probation, during which he might discover whether or no he was suited for an architect's work, requiring that he should first of all receive an "ordinary education," including "an acquaintance with modern languages and some knowledge of the dead languages," the usual modicum of Euclid, a course of lectures in natural philosophy, and above all a taste for drawing, and a knowledge of the use of mathematical drawing-instruments; after his year of probation he should, if he would continue, be articled in the usual way, but not to the architect with whom he had passed this year, that he might have the benefit of different influences. Apart from the obvious objection which was made at the meeting, that few architects would care to have pupils for a year on probation, with the understanding that if they proved good for any thing they were to be turned over to some one else, the suggestion would certainly seem a wise one, if the system of apprenticeship is to be maintained, — a system whose excellence we much doubt. There is no appearance, however, of any disposition among English architects to substitute a system of schooling for it. Mr. Price argued strongly against the young men's habit of addicting themselves to competitions. He distrusted competitions as misleading as well as wasteful of labor and unfair; and urged the young practitioner instead to begin practice by giving half his time to the service of some older architect, or by working in consultation with his seniors, — advice in which we fancy a great part of the profession are ready to go with him.

THE masons' war in London still continues. According to a late number of the *Builder*, although a hundred or more of the masters have yielded, and pay the ten pence per hour which the masons demand, the great body of them, or at least those who employ the greater part of the men, are still determined in their resistance. The importance of their resistance is indicated by the fact that of the twenty-five hundred stone-masons in the London society seventeen hundred are on strike. The cost of the strike to the Union is said to be about nine hundred pounds per week; and their taxes, aided by contributions from the provincial societies, to amount to a thousand pounds or more. Up to a short time ago, two hundred and thirty-nine men had been imported, of whom all but about ninety had delivered themselves over to the strikers. This has added greatly to their expenses; and if the masters find that they have wasted money on men who deserted as soon as they were got, there is an offset in the fact that the waste to the strikers is greater yet. If we may judge from a despatch sent to Washington by our consul-general at London, Mr. Badeau, the support of the masons is not likely to hold out very well; for he writes that American workmen are constantly coming to him out of work and

in deplorable poverty, asking to be sent home at the expense of the government. This state of things may show such persons that their English brethren are not likely to support them any longer than they feel compelled to, and might have some salutary effect in teaching them to comply with their promises.

AT a late meeting of the masters, a resolution was passed empowering their committee to continue the importation of foreign workmen; and the secretary replied that he had offers from the Continent of a thousand good masons, who were ready to come as soon as arrangements were made for them. A proposition for a conference from the men was referred to the committee, with a unanimous expression of opinion that it should be rejected. The Masters' Association had issued a notice to the defaulting Americans and Canadians, that unless they reported themselves for work to Mr. Booth and the Messrs. Dove, who had imported them, they would be sued for breach of contract.

THE CONVENTION OF THE INSTITUTE.

REPORT OF THE ELEVENTH ANNUAL CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS, HELD AT BOSTON, OCT. 17, 18, AND 19, 1877.

THE Convention met in the hall of the Society of Arts at the Massachusetts Institute of Technology, on Wednesday, Oct. 17, at ten, A.M., the President, MR. THOMAS U. WALTER, being in the chair; and was opened as usual with the annual address by the President, which has already been published (*American Architect*, No. 96).

The reading of the report of the Board of Trustees by the Secretary, MR. BLOOR, followed. The report was accepted, the consideration of its recommendations being deferred.

The report of the Treasurer, MR. HATFIELD, was read; and Messrs. Sturgis, Longfellow, and Stone were appointed an auditing committee, to whom it was referred.

The Secretary read the reports of the Committee on Publications and the Secretary for Foreign Correspondence, which were accepted. No reports were received from the Committee on Education, or from the Committee on Professional Practice. Reports were read and accepted from the Chapters at New York, Philadelphia, Boston, Baltimore, and the Rhode Island Chapter.

The election of officers being next in order, it was voted, on motion of MR. VAN BRUNT, that a nominating committee of one member from each Chapter should be appointed by the President; and the election was deferred till the committee should report.

The report of the Special Committee on Finance was at their request postponed till a later session.

In recognition of the hospitality of the Massachusetts Institute of Technology, at the suggestion of PROFESSOR WARE, the architectural students of the Institute were invited to attend the sessions of the Convention. An invitation was received from the Trustees of the Boston Museum of Fine Arts, to attend a reception at the Museum on Friday evening.

On motion of MR. WARE the report of the Board of Trustees was then taken up. The first point considered was the collection of information in regard to adjudicated cases upon the emoluments of architects, a subject which had been under consideration by the Trustees, and by them referred to a special committee.

MR. HAIGHT, in behalf of the committee, said that but few answers had been received to the requests sent out by the Board of Trustees for information concerning cases which had been tried in the United States. Two important cases involving considerable amounts were pending in the New York courts, and until these were decided it was undesirable to make a formal report. The committee, therefore, simply reported progress, with a request that any members who knew of cases that had been tried and settled should give information of them to the committee.

The recommendation of the Trustees, that a report should be procured from each Chapter on the building materials found and used in its neighborhood, was deferred till the consideration of the report of the Rhode Island Chapter on a similar subject.

The recommendation concerning the establishment of a degree to be conferred upon architectural students was referred to the Committee on Education, with instructions to report at the next Convention.

On motion of MR. WARE, the recommendation concerning the Washington Monument was passed over.

The question was considered which had been raised by the Trustees as to the proper status in the Institute of members who, it was said, while appearing on the rolls merely as honorary members, were really more or less engaged in professional work for which they received fees. Explanation being asked, the cases of these members were specified; and the inquiry of the Trustees being read, concerning "the propriety of striking from the roll of honorary members the name of any resident of this country who derives any emolument, direct or otherwise, from the practice of architecture," it was explained by the Secretary that the Trustees desired general instructions as to what should be done in such cases: whether such members should be dropped, or should be notified that their proper place was among the corresponding members.

MR. RICHARDSON deprecated any action that might seem ungracious in matters which were merely technical irregularities, and suggested that such members should be requested to become professional members, if qualified, with the alternative of resigning if they preferred.

MR. HARTSHORN offered a resolution, which, after some verbal amendments suggested and accepted, read as follows: —

"That when any person residing in this country, elected an honorary member of the Institute, shall derive any emolument, direct or indirect, from the practice of architecture, the Trustees shall request such person to become a professional or corresponding member, if qualified, or, if he prefers, to resign his membership."

After some further discussion, the hour for adjournment having passed, the subject was postponed, and the convention adjourned till the evening session.

EVENING SESSION.

The Convention was called to order at eight o'clock by the President; MR. VAN BRUNT, in the absence of the Secretary, being appointed Secretary *pro tem.*

MR. WARE, in opening the session, in behalf of the Committee of Arrangements, remarked that the committee had taken example by the convention of the Society of Civil Engineers in arranging that a series of rather short papers should be read on the subject appointed for discussion, Fire-proof Building; believing that in this way it would be found what points were settled by general agreement, while those which were mooted would furnish topics for the discussions which were to follow the papers. Four papers had been received in answer to the invitation by the committee.

MR. WARE then read a paper by Mr. Franz Schumann, C.E., on the use of iron in fire-proof construction. The paper gave a discussion of the effects of heat on iron and its conductivity, with an analysis of the rapidity of its conduction when exposed and when protected by a non-conducting material. It ended by urging iron as the essential constructive material for fire-proof buildings, and the importance of protecting it by a covering of brick or other earthen substance.

A paper by MR. LIENAU of the New York Chapter was then read by MR. WARE, chiefly on the use of brick, which he advocated, and on certain forms of vaulted floors in use in Europe. MR. WIGHT of the Chicago Chapter followed with a paper on the protection of iron from fire by coverings of terra-cotta and other non-conductors. The closing paper was by MR. R. G. HATFIELD of the New York Chapter, giving a summary of the losses from fires in the United States during the last thirty years, and estimates of the annual loss to the country from them; and calling attention to the value of solid wooden floors as a means of checking the spread of fire in buildings. All the papers united in agreeing that none of the methods of building in use in the United States were really adequate to resist fire; and that where iron was used it needed protection from some more fire-resisting material. The papers were referred to the Committee on Publications.

In the discussion that followed the papers, MR. LORING of the Chicago Chapter described a kind of terra-cotta that he had succeeded in manufacturing, which was very porous, and just half as heavy as the ordinary material. He tempered the clay with an equal bulk of sawdust, which by careful and prolonged firing was entirely burned away, leaving the terra-cotta very light and non-conducting, and so porous that nails or screws could be driven into it with ease.

MR. PEABODY gave an account of the usual construction of floors in houses at Paris. Iron beams being put in in the usual way, he said, strips of iron were laid between them two or three feet apart so as to form a skeleton for the plaster filling. A temporary floor of boards was laid against the under side of the beams, shored up from below; and on these were laid little vessels like flower-pots, very close together, between the beams and strips. Upon these was poured a fluid mixture of fresh plaster with fragments of stone, broken plastering, and other building rubbish from the demolition of the old buildings, so far as he could judge. As soon as the mixture had set, the shores and flooring below were taken away, and the ceiling beneath plastered; strips of wood were laid on the iron beams, and on these the floor was laid, having no bearing on the filling of pots and plaster, which had only its own weight to carry. In some parts of France, he believed the local plaster was not strong enough to allow of this construction. He had seen cases in London where the same sort of thing was done, but with spans of four or five feet filled in with concrete, still without resting any weight on the concrete, which served only to incase the beams. He had been asked why the Brewer Building had been included in that afternoon's excursion. The only point of interest was the construction of the mill-flooring in it, where instead of small joists set in the usual way there were large joists, like girders, set some feet apart, and on them a floor of stout plank. The building was intended to store a large quantity of inflammable goods. With such contents brick and iron floors could not be considered safe against fire; and he thought that to build

floors that would not readily burn, while if they did take fire the exposed timbers could be easily reached with water, was a good rough-and-ready way of opposing fire.

MR. HATFIELD remarked that this mill-flooring system was essentially the system of solid floors which he had suggested in his paper, in which the beams, being laid close together, need be only of little depth, — say three inches.

MR. PEABODY suggested the danger of injury from the swelling of solid floors. MR. RICHARDSON thought the danger of dry-rot was an objection to all solid floors, as well as to beams incased in plaster.

MR. HATFIELD had never himself built solid floors; the danger of decay seemed to him the most serious one, and was to be met by some antiseptic process. The kyanizing and Burnetizing processes were of value, till something more effective should be discovered.

MR. LONGFELLOW, in answer to a question, described a kind of vaulted floor that was in use in Tuscany. He had inquired into it when in Italy, and was told that the floors were vaulted over spans of sixteen or eighteen feet, with one thickness of bricks laid flat, forming a shell of about two inches thick, and with a very small rise, — a foot or so. This kind of vaulting was local, and done by workmen who were bred to the traditions of the trade in their own provinces: when it had been attempted in other provinces by new workmen, it had not succeeded; the vaults had fallen and done mischief, and the attempt had been abandoned. He spoke from recollection. The record he had made of the process had been sent to Boston after the great fire, and he had not seen it since. It was his impression that the vaults were laid without centres.

MR. WARE remembered that in the account sent home by Mr. Longfellow, it was mentioned that the vaulting system had not been found practicable in Venice because of the thinness of the walls, which, being built on piles, were not massive enough to bear the thrust of the vaults that the solid stone walls of Tuscany were able to resist.

MR. HATFIELD described the vaulting of a room which he had seen building in Italy. It was a room about sixteen feet square, and the vault was a barrel vault of perhaps three feet rise. The thickness of the bricks, which were laid flat, and of the arch therefore, was only an inch and a quarter. The workman began by running a "screed" against the wall at the springing of the vault, then a forming-rib against the side wall. He next laid the first course of his vault at the springing, and the next against that, and so on, without any centring, till he had extended it some distance. Then he strengthened the middle and the end by two ribs of brick-work, attached to the wall, and projecting like cantilevers. He did not stay to see the work finished, but presumed the workmen went on in this way till the crowning course was laid. Above the vault they placed wooden beams, on which they laid the floor. He also remembered standing on an arched floor in the unfinished synagogue at Turin. The floor was on groined arches springing from piers, and with a span of about thirty-five feet. Openings were left at the groins, through which he looked, and saw to his great surprise that the shell of the vault was not more than four or four and a half inches thick.

MR. HARTWELL mentioned a method of vaulting a floor, of which he had somewhere seen a description,[1] in which the vault was begun at the corners, instead of the sides, throwing diagonal arches across from side to side, and repeating them till they meet at the centre in a square opening diagonal to the room, which was then filled up, making a vault which has a thrust in every direction instead of only in two. Another method for wooden floors, recorded, he thought, in Gwilt's Encyclopædia, was by laying a solid floor of several thicknesses of boards in strips crossing each other diagonally in various directions, with a slight rise in the middle.

MR. STONE quoted instances of underground cisterns which were built in his neighborhood, of twelve or fourteen feet across, which were domed in with brick-work four inches thick, laid without centres. In one case such a cistern had been put in a field, and afterwards, a drive-way being carried over it, carriages and horses were driven across it without injury. In regard to wood-construction, the companies which insured mills in Rhode Island insisted that there should be no boxed-up work. All the floors were of the kind described by Mr. Peabody. The floors were usually of three-inch plank splined together, and the girders sometimes nine or even ten feet apart; for the wider spacing they generally used four-inch spruce plank, put together with splines, and then covered with hard-pine flooring. Practically no cornices were allowed: if there were any outside they must be boarded close upon the ends of the projecting rafters, with no continuous spaces. For the protection of the "picker" rooms iron doors were scarcely used, but always doors made of a light iron frame, with thin boarding on both sides, and covered with tin. It often happened that considerable fires occurred in the picker rooms, without extending beyond them. There were one or two things suggested in the papers that had been read which seemed to him questionable; for instance, building a vaulted wall with only a four-inch lining, which lining he considered a very slight wall to carry, as it had to, the weight of the floors. The methods suggested of incasing iron beams with plaster seemed to him insecure. He could not conceive of the plaster getting sufficient hold of the beam to make it secure against vibration, if it were thick enough to have any weight, or of its doing any good if it were not.

MR. PRESTON, in answer to MR. STONE, said that the only question of a four-inch lining wall being too slight was in case of insufficient tying to the main wall. He instanced the building in which the session was then held (the Massachusetts Institute of Technology), where the lining-wall was a four-inch wall and carried the floors, but was bonded by ties sixteen inches apart to the main walls, which varied, at different heights, from three feet to twenty inches in thickness.

The discussion having ended, the President announced Messrs. McArthur of Philadelphia, Stone of Providence, Wight of Chicago, Scofield of Cleveland, Lind of Baltimore, and Peabody of Boston, as the nominating committee.

After some discussion, it was voted to accept the invitation of the Trustees of the Art Museum, and to visit the Museum at six o'clock on Friday evening, and that the annual dinner should be at eight o'clock the same evening.

The Convention then adjourned till Thursday morning.

[1] See the account of Mr. Niernsée's report on the Vienna Exhibition, *American Architect*, Sept. 16, 1876.

THE ILLUSTRATIONS.

DORMITORY FOR BROWN UNIVERSITY, PROVIDENCE, R.I. MESSRS. STONE AND CARPENTER, ARCHITECTS.

This building is to stand at the south end of the rear campus, facing George Street, and about seventy feet from the line of the street. It is to be built of dark face bricks laid in black mortar, with underpinning, steps, window caps and sills, of brown stone; and bands, coping, etc., of terra-cotta. The roofs will be covered with slates or tiles. The building is to face the south, hence the peculiar arrangement of the rooms, all of the studies in the central portion of the building being placed upon the south side, and their bedrooms opening directly from them on the north side. The rooms are arranged in suites of two, — a study and one bedroom, — and suites of three, — a study and two bedrooms; giving accommodation for forty-eight students. The foundations are laid, and the cellar walls are built up to grade, ready to receive the superstructure, which will be built next summer.

DESIGN FOR THE NEW DORMITORY BUILDING AT BROWN UNIVERSITY, PROVIDENCE, R.I. MESSRS. WALKER AND GOULD, ARCHITECTS.

THIS is one of the designs submitted in competition for the new dormitory building for Brown University at Providence, R.I. It was intended to be built of pressed brick, with light sandstone for the belts, copings, window sills and caps, and brown stone laid in squares between second and third story windows. The underpinning was to be laid in courses of split granite; the roof to be slated, and the ridges to have terra-cotta ridge-crests.

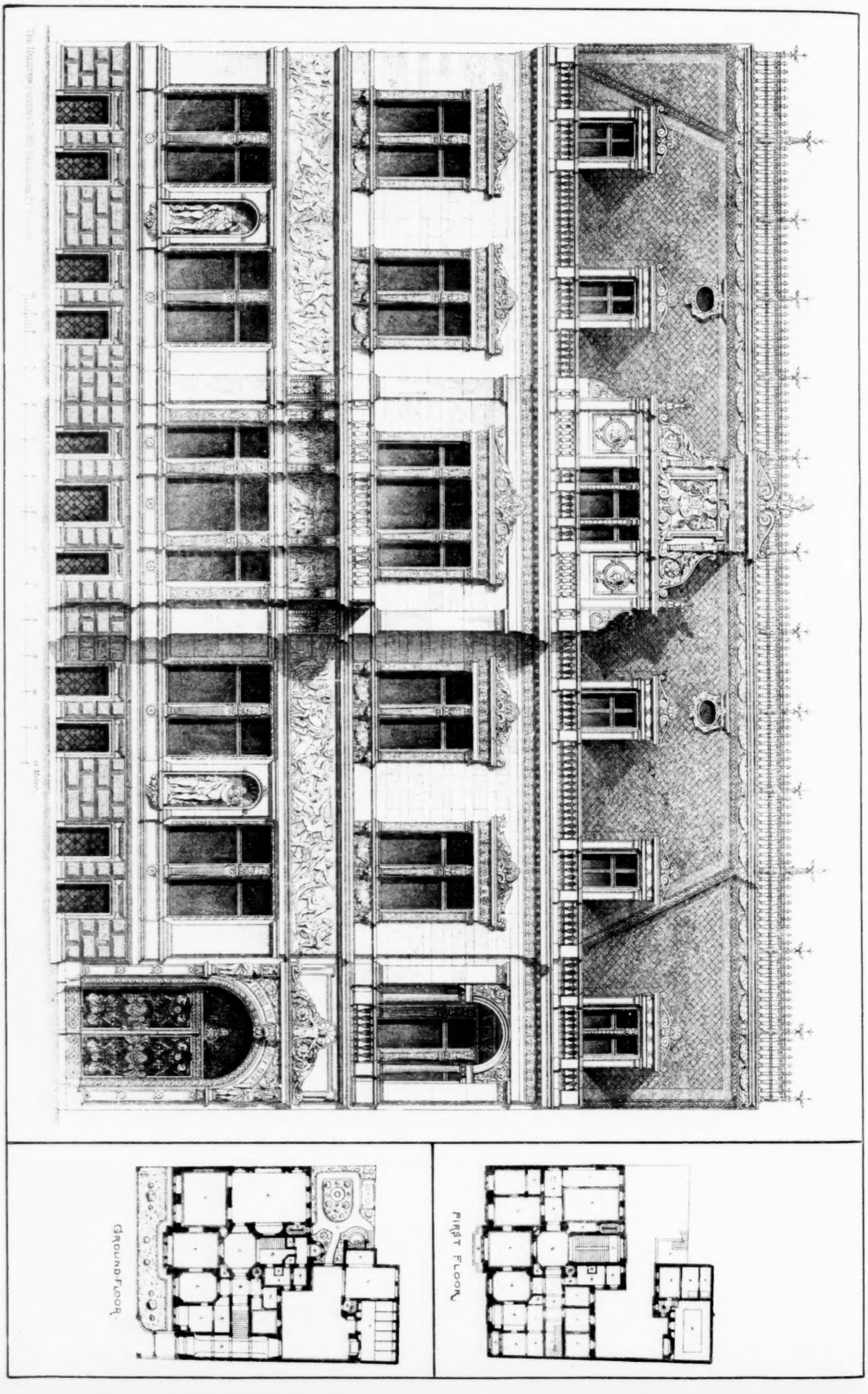
HOUSE AT LOWELL, MASS. MESSRS. WARE AND VAN BRUNT, ARCHITECTS.

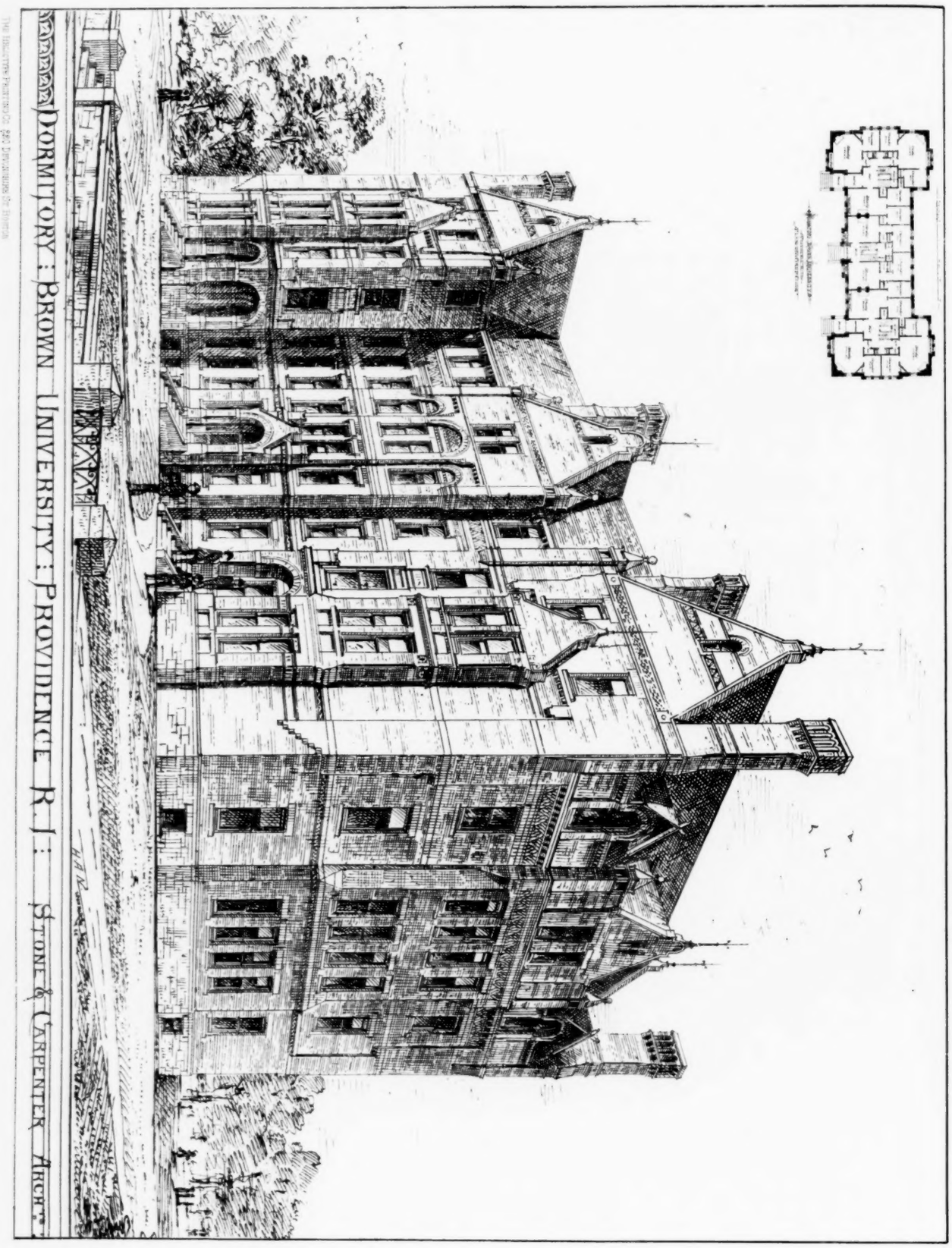
The figures upon the plans refer to the rooms as follows: on the first floor plan, 1, Hall; 2, Parlor; 3, Dining-room; 4, Kitchen; 5, Stores; 6, Garden-entrance; 7, Rear-entrance; 8, China-closet; 9, Closets; 10, Vestibules. On the second floor plan, 1, Corridor; 2, Chambers; 3, Bath-room; 4, Closets; 5, Clothes-closet.

PRIVATE HOUSE IN BERLIN. MESSRS. EBE AND BENDA, ARCHITECTS.

This building, of which the plans of two floors are here given, has lately been erected for Lieut-Col. von Thiele-Winkler in the park-like suburbs of Berlin, the Regenten Strasse Berlin. Above the second story is a mansard, the kitchens and other rooms for housekeeping being in the basement. The façades are built of Oberkirchner sandstone, a most excellent material which with time assumes a delicate yellow-green tone, and which is now used for the completion of the Cologne Cathedral in place of the Caen stone formerly employed. The front is somewhat in the manner of the Heidelberg Renaissance. The principal motive is a frieze of figures from the Edda, with which all the ornament is in harmony. The sidewalk, posts, and the socle and steps of the house are of red Swedish granite; many of the walls are inlaid with marbles. In Berlin, a city of stucco and terra-cotta, there are but few private dwellings of such monumental materials. Nearly all the rooms of the ground-floor are vaulted, their decorations being of bronze tarsia work, and carvings of rare woods, no imitations having been tolerated by the builder. The plate is copied from the *Allegemeine Bauzeitung*. The following explanation of the distribution of the rooms refers to the plans which will be found on one of the illustrated pages: —

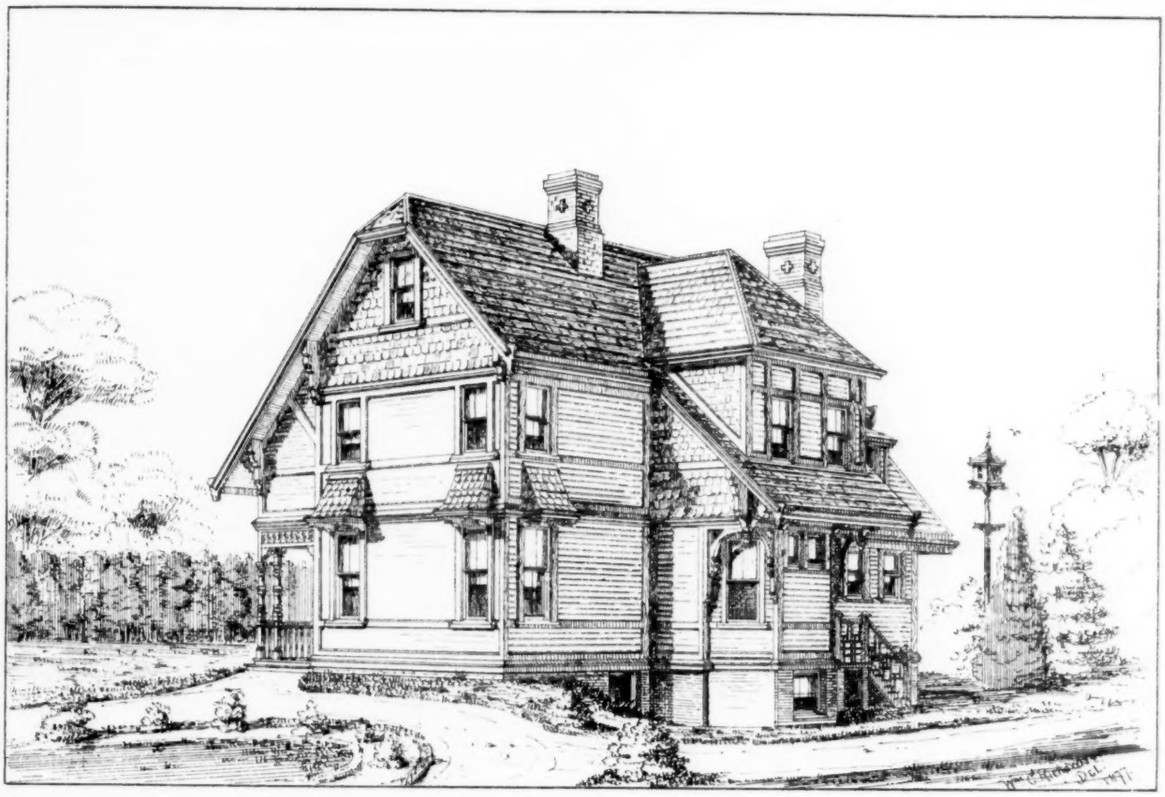
Ground Floor. — A, Carriage-way; B, Vestibule; C, Hall; D, Dumb-waiter; E, Master's Reception-room; F, Dining-room; G, Saloon; H, Ball and Music-room; I, Master's Study; J, Garden; K, Alcove; L, Secretaries' room; M, Servant's room; NN, Wardrobes; O, Bath; PP, Side Staircases; Q, Bower; R, Grand Stair-


PRIVATE HOUSE AT BERLIN PRUSSIA
GROUND FLOOR
FIRST FLOOR

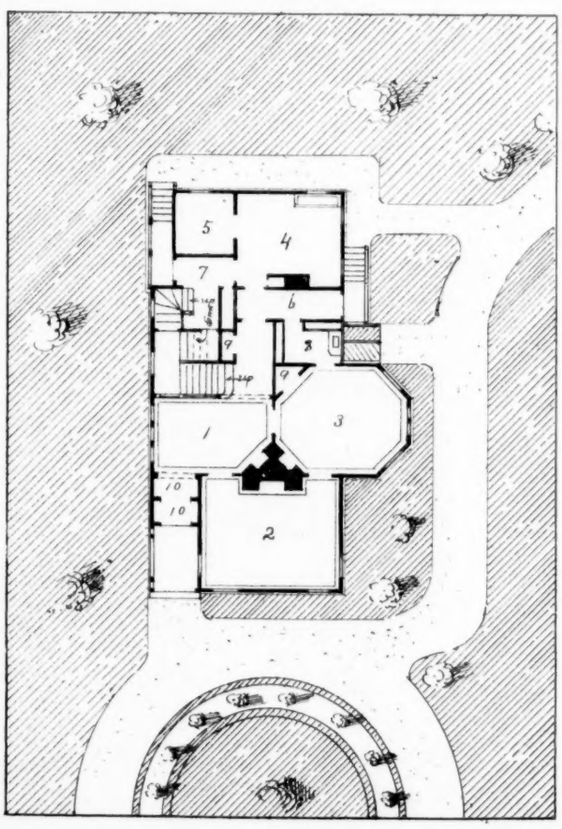


DORMITORY: BROWN UNIVERSITY: PROVIDENCE R.I.: STONE & CARPENTER ARCHT.

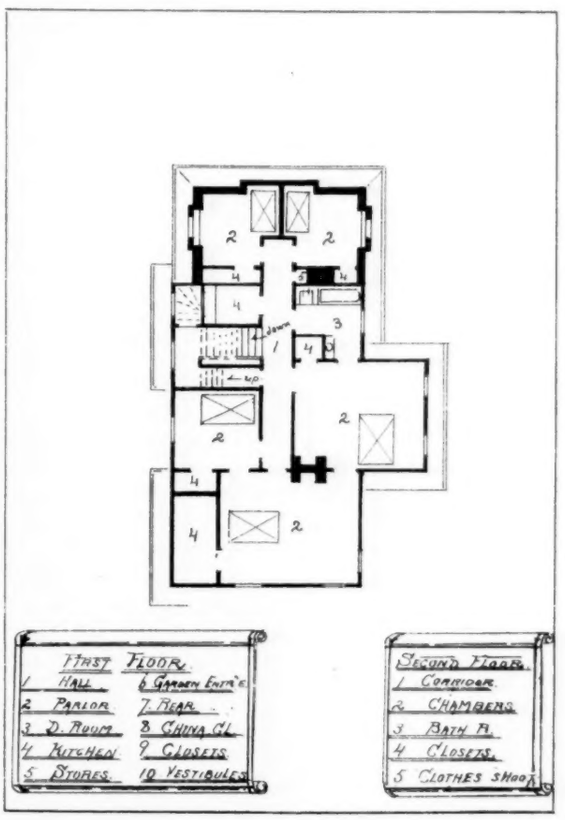
WM. R. WALKER
THOS. J. GOULD ARCHTS.
DORMITORY BUILDING FOR BROWN UNIVERSITY.
PROVIDENCE R.I.



HOUSE AT LOWELL FOR A.A. COBURN ESQ. — WARE AND VAN BRUNT. ARCHTS.



PLAN FIRST FLOOR



First Floor.	
1 Hall	6 Garden Entr'e
2 Parlor	7 Rear
3 D. Room	8 China Cl
4 Kitchen	9 Closets
5 Stores	10 Vestibules

Second Floor.
1 Corridor
2 Chambers
3 Bath R.
4 Closets.
5 Clothes shoot

PLAN SECOND FLOOR

case; S, Court; T, Stall; V, Water-closet; W, Stable Staircase; X, Set-bowl; YY, Carriage-rooms; Z, Elevator. *Second Story.* — A, Library; B, Sitting-room; C, Sitting-room; D, Dumb-waiter; E, Chamber of mistress; F, Toilette; G, Water-closet; HH, Alcoves; I, Sitting-room; J, Grand Staircase; K, Ladies' Room; LL, Chambers; M, Coachman's Room; N, Wardrobe; O, Bath; PP, Coachman's Chamber; Q, Balcony; RR, Corridors; S, Hall; T, Ante-chamber; U, Loggia; W, Hay-loft; X, Terrace; Y, Staircase to mansard; Z, Elevator.

MODERN CHURCH ARCHITECTURE.

THE committee who had in charge the preparation of the programme of the late convention of the American Institute of Architects invited the members of the Institute to prepare short papers on the subjects named in the programme. The object of this was to allow time for the discussion which it was thought the papers would be sure to evoke. On the subject, "Religious Architecture," the following short papers were read by Mr. R. S. Peabody and Mr. C. A. Cummings, both of the Boston Chapter. Unfortunately the pressure of executive business prevented any discussion of these papers, and the debate was lost.

Mr. Peabody said: —

There is one practice in the building of churches common to France and England, but which is almost unknown here. It is the practice of making them permanent, durable, secure.

A recent walk about London showed me not rare instances, but great numbers of ritualistic churches built for mission purposes, and in a way hardly to be seen here. I have the photographs of many here to-night. The interior walls are brick, the paving masonry of some sort, and the roof vaulted so far as the money holds out. The churches I think of principally are those of Brook; severe and monastic in design, and evidently of little cost; but they are durable. I recall a church of Pierson's where this intention was not abandoned for want of funds, for the choir and transept had been built in a rich and costly manner with the early English detail of which he is such a master; and the nave was a long galvanized-iron temporary church.

It is just the same in France. A series of new Romanesque churches have been built in the Menilmontant district. Wood is hardly apparent in these constructions. The walls are stone; the vaulting is sometimes made by turning brick arches without centres from iron vaulting ribs; and the vault is subsequently plastered; the floors are mosaic perhaps, and sometimes covered with a wooden floor beneath the seats.

By these references I wish to note the almost universal custom in other countries; and these churches, many of them, are no more costly than some we have visited to-day.

Every public building, and in just the same way every church of importance, is practically not alone for our day, but an endowment for future generations. It should thus be looked upon, and the universal practice of building churches of a destructible character, while it is unknown in other countries, is unworthy of ours. Take our noblest example, this splendid Trinity; there is nothing to prevent its being destroyed in a night by fire. In England or France it might have no cellar, but it would have masonry floors, probably masonry ceilings, and an interior of masonry; while this has wooden floors, and roof and walls plastered on wooden furrings, and as I am told its fittings are too choice to permit its general use by the Convention. I cite it as our noblest example; and our others are like it, wooden churches surrounded by a masonry wall, and fitted with equally nice furniture. It is useless to talk of cold and echoes. These offer the problems somebody must solve. I submit that a monumental church should be built as an endowed possession for other generations, and rough enough for every use; and that as such, ours are unworthy.

Now, there is one more suggestion which these churches offer. We readily acknowledge the perfection of Mr. Pierson's Gothic churches and others in England. On the other hand, we see in St. Clothilde in Paris a very lifeless Gothic church, and in St. Ambroise and the other Parisian Romanesque churches equally lifeless examples of round-arched work; while the most perfect of Mr. Pierson's Gothic churches, though it may equal, cannot surpass the nobility, serenity, church-like air of Hittorf's classical basilica of St. Vincent de Paul, or Vaudremer's Byzantine parish church at Montrouge; while the Romanesque that makes so poor a figure in Paris, certainly has not diminished the ecclesiastical effect of our own Trinity. From this I argue, that as I believe it to be in domestic work, so I think in church work, the style employed has little to do with the character of the church; but the feeling and ability of the designer every thing. I mistrust the Gothic dogmas in church work as much as I do in other work. In fact, with all our accumulated knowledge, I think that the style matters less and less, and the artist more and more, — and this in church as in domestic designing.

In our designing of Congregational churches, we are met by two opposing influences: on the one hand, utilitarianism, — the needs of the parish in the modern order of things; on the other, ritualism, — that returning to the old symbols, customs, and decorations which the Puritans threw aside in sheer opposition, but of which, now that the exigency is past, all sects see the value and pleasure. I shall leave to others to say where this line shall be drawn, and to speak as to the complicated arrangements now required in connection with a modern Congregational church. I confess that I think the architects are too prone to the old ways, and that often, when a Congregational church is wanted, the parish get too mediæval plans, and churches fitted alone for obsolete forms of worship. This, of course, is a wrong tendency, and our chief fault in church building. Obviously, the purposes to which the building is to be put — the present forms of religious worship — must be our guide.

While expounding is the main object, the seats must be arranged accordingly. So long as people practise total immersion as a religious rite, the undesirable but useful force-pump, hot-water boiler, and marble or lead tank must be a feature in the church. But, with all the changes that have come about lately, — church parlors, lecture-room seatings, cooking-stoves, pantries, and the other adjuncts of a well-regulated meeting-house, — it seems to me that the fact that the auditorium is, to most sects, still a house of worship, is likely to be lost sight of rather than that, in this practical country, these wants should rest unsatisfied, in spite of the architect's backwardness. I distinctly would add every useful feature to the building; but I would strive to keep the church itself, from bottom to top, sacred, and put the adjuncts elsewhere.

It is with pleasure that lately I have heard two Congregational ministers express regret at the custom of placing the minister in the centre of the church, and setting his preaching on the same level with the prayers and Bible-readings, the marriages, christenings, burials, and communions, which might well be distinguished from the first. These were Congregational ministers, and not, as might be supposed, Episcopalians; and whatever may be thought of this particular scheme, it seemed to me to be in the right spirit. On the other hand, a church committee recently pointed to a communion-table, behind a chancel-rail, of the most determined Yankee rococo character, and, styling it the altar, explained to us that as the lay members spoke from behind the chancel-rail, and not from the platform, the altar was much in the way, and the proper arrangement was to have it shoved beneath the pulpit, and leave free play for the lay speaker.

It is not for us architects to teach the people religion, but there are æsthetic views which this spirit offends; and on such grounds alone, while admitting force-pumps, tanks, cooking-stoves, and pantries to their proper places, I think we should keep in mind, and increase as much as possible, the idea that the main church is not a church-parlor so much as a place of worship.

Mr. Cummings said: —

While the Church, as a governing and dominating force, was really held in reverence, its edifices were monuments of its power, and acquired a dignity and grandeur wholly unconnected with their practical use. To-day, in Protestant lands, the Church is a shadow, and churches are no longer monuments, but buildings erected for the practical uses of public worship, which grows every year more and more simple, and in which the first necessity is that the words spoken by the preacher shall be clearly heard by all his congregation.

Notwithstanding this change in the conditions, we go on building imitations of the old cathedrals, the monuments of an age when the church service was a spectacle addressed by a ruling priesthood to the senses of a crowd of ignorant subjects.

We must of course discriminate between the religious purposes of Catholic and Protestant forms of worship. A Catholic church has to-day the same requirements which a Catholic church had in the Middle Ages; and the problem presented to the architect of a Catholic church to-day is to produce a building which, in general plan, size, and splendor, will most resemble its predecessors of six hundred years ago. He feels no embarrassment as to characteristics, but simply and frankly turns to his books, and does his best to preserve the traditions of the great days of the Church.

But the architect who is to build a church for a Protestant congregation has a different task before him. In his church there are no processions, no spectacles; and though the forms are more elaborate and the conditions therefore somewhat different in the churches of the Episcopal denomination than in those of the Congregational bodies, still there is so much similarity that the points of difference may for this occasion be overlooked.

The meeting-houses of two or three generations ago, of which in this city, Hollis-street and the West Church are remaining examples, although quite innocent of architectural design, at least so far as their interior is concerned, were perfectly adapted to their uses. Small, square, low, with a single broad gallery nearly at the level of the pulpit, with an abundance of light, and with all spaces unobstructed, they met the conditions of a simple Congregational service. It ought to be possible to preserve these virtues, while adding the touch of grace which was all they lacked. But the demon of ambition, entering alike into the souls of architects and committees, has encumbered their successors with great columns which cut off the pulpit from one-third of the congregation, has raised high into the air a high-pitched gloomy roof which absorbs the voice of the preacher as well as the light from the windows, has filled these windows with dark and sombre glass, and made the church so dark that the faithful who enter stumble over their own footstools, and can scarcely find the places in their

service-books; has enlarged the size until all feeling of association in worship has disappeared. All this we have done in blind and unintelligent following of the mediæval traditions; and the result is that not only have the churches been unpleasant and unwholesome places for worship, but they have been unsatisfactory even as architectural monuments.

If then I am asked what should be the characteristics of church architecture to-day, I should begin by a negative, — they should *not* be the characteristics of cathedral architecture six hundred years ago. Not for us are the cliff-like walls, the mighty towers, the vast and sombre spaces, the dim echoing roofs, of the great churches of old. Our churches must be *houses* of worship, warm, light, cheerful, and fitted for a service in which not only the priest but the people are to join as equals.

The convenience of such a service would seem to discourage a cruciform plan, except as a modification of the square, for greater ease of construction, and greater grace of design. (The Greek cross recommends itself in this sense.)

The rigor of our climate, and the importance of the warming problem, would in large churches diminish the area of glass in the windows. In cities the privacy of the congregation will be less invaded by the noises of the street if the windows are high in the walls, or if the chief light comes from the roof.

In a church where the chief portion of the service consists in the reading and speaking of the preacher, the limit of reasonable size and height is soon reached: hence the ambition which leads beyond this limit is a snare.

These, and such as these, seem to me the essentials in modern Protestant church building. These once admitted, there remains the question as to style and decoration. But it seems to me that here we should be as broad as the diversity of tastes will prompt. That one Church should be Gothic, and another Romanesque, and a third Renaissance; that in one vigor should predominate, in another grace; that in one the construction of walls and roof should proclaim themselves in the interior, while in another a screen of plaster should make the interior design and decoration independent of the construction, — all this is but to say that there will be diversity of gifts, but the same spirit. We should not wish all our churches to be cast in one mould. The architect who sets himself heartily to his work, and who is happy in it, will know how, according to the means at his command, to express the seriousness, the reverence, the repose, which should characterize the places which intelligent and Christian men set apart for the worship of God.

CORRESPONDENCE.

THE LONG ISLAND HISTORICAL SOCIETY'S BUILDING. — SOME NEW WORK.

THE work upon the Long Island Historical Society's building already gives promise of a muddle; and it will not be surprising if considerable grumbling is heard when the award is made by the building-committee. The idea of building a special building for their accommodation has long been entertained by members of the society; and some years ago a plan was secured from Mr. Leopold Eidlitz, architect, paid for by the then building-committee, and laid away to disuse. With recent acquisition of funds the desire to build has revived; and with the first faint hints of this purpose came a score, more or less, of architects anxious to make designs. The secretary and librarian was waited upon; and upon his notion of what the society needed, and what the yet unselected building-committee might decide was necessary, several architects have already prepared plans and elevations, and sent them to the rooms of the society. These professional gentlemen may possibly have labored under a misapprehension of the facts; but it certainly would have been more dignified, and more what might have been expected from several of the misguided ones, to have waited until the call for designs had been formally and officially issued. As it is not expected that more than $100,000 will be spent on the building, — which is to have a lecture-hall, a library, and museum, with the necessary ante-rooms, consultation and committee chambers, all on a 75 x 90 foot plat, — it is not very likely that unsuccessful architects in the competition will receive any remuneration, however slight, for their work. It may be, too, that the committee will select an architect without competition; and if so, the gentlemen who have so energetically elaborated designs may get only their labor for their pains. A day or two ago the president of the society named the committee as follows, but no action has yet been taken by them: Samuel McLean, S. B. Chittenden, A. A. Low, H. E. Pierrepont, James R. Taylor, Henry C. Murphy, and Henry Sheldon, with Rev. R. S. Storrs, president, and A. W. Humphreys, treasurer, as *ex-officio* members. These are names of New York's most honored merchants and men of business, but not necessarily expert discriminators between designs in Queen Anne, Victorian Gothic, Renaissance, with possibly a sprinkling of corrugated iron "pepper-box" architecture. However, we shall see what we shall see.

Among the architects the young firm of McKim, Mead, and Bigelow are positively busy. At Lenox, Mass., they have a country-house for Mr. Samuel G. Ward of the banking house of Brown Brothers. It is on a hillside, with the requirements that all the living-rooms and family apartments shall have a southern exposure, and that the building shall be low. The result is a long rambling house nearly 200 feet in length, — merely a string of rooms with a passage-way on the north side. The family rooms at one end, and the servants' quarters at the other, remind one of old Southern mansions. The sides will be shingled down to the water-table; and with cathedral-glass windows and odd gablets, the house has such a quaint look, that but for a few Queen Anne fantasies it might pass for an old Puritan's homestead. In the city McKim, Mead, and Bigelow have designed an out-and-out Queen Anne front for a private residence on Thirty-fourth Street, now building for Mr. Dickinson. The materials are brick and blue stone, with iron beams and other fire-proof devices, while the passenger-lift, the conservatories heated by indirect radiation, and other accessories will raise the cost of the 25 x 100 feet four-story house to $30,000. A Gothic rectory for Christ Church, Rye, N.Y., is also among the works now in progress under these architects.

From the amount of study going on in various offices, and from little hints and sketches here and there, the prospects are for a deluge of Queen Anne fronts; and from inexperienced hands, some rarely fantastic combinations may be looked for.

William Fields and Son are busy upon a new block, 200 feet long, of the South Brooklyn model tenements for Mr. White. Two parts of these have already been erected, and have given such satisfaction that additional land was bought, and new work begun. These designs are worthy of special notice, as fulfilling the requirements of economy, privacy, excellent sanitary appliances, strength, fire-proof qualities, and cheapness, at one and the same time. They have also in hand a large double residence in brick for Mr. George Ehrst, to cost about $50,000. The house will stand on Fourth Avenue near Ninety-second Street, and will be about 45 x 72 feet.

The "Florence" apartment-house at Eighteenth Street and Fourth Avenue, by Emile Grewé, promises to be superior to the usual run of such buildings. A frontage of 200 feet on the street, and a flank of 53 feet on the avenue, with six stories in height, gives opportunity for some good grouping of parts. There is an L running back 92 feet also. Brick and Nova Scotia stone with polished granite columns will be used. The plan is marred by the long narrow passages so frequent and so objectionable in flat-houses, but ample light is given to all rooms. A restaurant with five suites of rooms on the first floor, with six sets of apartments on the upper floors, make up the arrangement of interior parts. The cost of the building will be over $200,000. W.

THE TEMPLE OF THE SUN.

THE late Professor Orton, in a letter written for the New York *Tribune* only a short time before his death, gave this description of a renowned Peruvian temple at Cuzco: —

"Just north of the city, and rising five hundred feet above the Plaza, is the famous hill of Sacsai-huaman. On the slope is the church of San Cristobal, which unfortunately covers what tradition calls the remains of the palace of Manco Capac. This Manco Capac must have been a wonderful man to have come from the bleak island of Titicaca, and suddenly developed a talent for architecture which would shine to-day. The masonry of the Temple of the Sun cannot be surpassed; and, judging from the few courses of cut stone visible near San Cristobal, his palace would rival any structure on Fifth Avenue. Crowning Sacsai-huaman is the celebrated fortress, — the Ehrenbreitstein of Peru, where so much brave fighting was done three centuries ago; the Indian for his country, the Spaniard for his gold. Three ugly crosses deface it. Away with them! why crucify the hill afresh — which they certainly do if they represent the religion in the city below? Sacsai-huaman (which has the singular meaning of 'Vulture, gorge thyself') is not higher than surrounding summits, but it has steep declivities, save on the north side, where it blends with the highlands beyond. It is this exposed side on the north that is so remarkably defended. Here are three successive semicircular walls of rough polyangular stones without mortar, yet accurately fitting. These stones, or rather rocks, are among the largest ever handled by man. There is one twenty feet high, nine feet wide, and seven thick, and must weigh nearly one hundred tons. Another has a face about fifteen feet square, and has eleven angles, to which its neighbors closely correspond. The stones come from a limestone quarry near by. But how they were transplanted, even a short distance, and lifted into place, it is not easy to see. The style of masonry is like that in the Calle del Triunfo; all the stones are of irregular shape, yet make perfect joints with each other. Evidently this Cyclopean style did not save labor, but rather increased it; for to cut ten faces on a stone with no two angles alike, yet matching those around it, is more difficult than to make all rectangular. But strength was designed and secured by this novel method; for the stones are so tied in that no one can be taken singly, and every joint is broken. The lowest line of fortification is the most colossal, and has numerous projecting angles; but the height nowhere exceeds twenty feet. And the mystery is, why such a massive defence against bows and arrows (it was built, historians say, before Columbus was born), and so low that it could be easily scaled? It is one of the many riddles of ancient Peru. Within a stone's throw of Sacsai-huaman is the

Rodadero, or abiding-place, a convex hill of limestone, curiously grooved. Here, cut out of the solid rock, are thirteen seats, or steps, in four rows, facing 14° S. of E.; and close by is another series, which faces 20° S. of W. In the neighboring rocks are hosts of squarely-cut places, hardly seats, for they are too narrow, — rather altars for household gods. But there is such an utter want of system and of uniformity, and withal so many, one is disposed to think they are the random work of an idling race who had nothing else to do. Still farther north of the Rodadero are traces of the royal road, walled in and paved with small limestone blocks, which was projected to reach Quito.

"All these monuments in Cuzco are supposed to be later than those at Tiahuanuco, Pachacamac, and Trujillo. Without doubt they are antedated by the monoliths south of Titicaca; but about their being erected by the race that met the Spaniards, I am sceptical. The relics preserved in the two largest collections of antiquities in Cuzco, the 'Centeno' and 'Montez,' are comparatively recent. I can readily believe they were made by a people as weak as Pizarro found; they exhibit a state of society in the last stages of decay. There is nothing noble or intelligent in their handiwork. It is inconceivable that the same people reared the walls of the Temple of the Sun, and made these rude, paltry, obscene images, — many of them obscene enough to make Sodom and Pompeii blush. The materials are gold, silver, copper, champi (copper and gold alloyed), stone and wood; and I have seen a breastplate of bell-metal. The objects usually represented are men and women, the llama, deer, monkey, guinea-pig, peccary, huma, cats, birds, snakes, turtles, fish, crab, maize, chirimoya, and melon. A hunchback with enormous mouth is called Manco Capac; he carries a hatchet, and his wife an ear of corn and a distaff. Another represents them worshipping the sun; and in another they are sitting under a palm-tree. All of these images show only the capacity of a child; nothing is true to nature; even their favorite llama is caricatured. In the entire Centeno Collection of a thousand antiquities, only one specimen, a large *cantaro* or jar, would arrest the attention of the artist. Some of the images resemble the horrid idols that used to be worshipped in the Sandwich Islands.

"In reviewing the ancient works existing in Cuzco, one is struck with the paucity and simplicity of the instruments remaining, and, on the other hand, with the wonderful achievements in masonry. All the edifices are without cement, and also unrelieved by cornice, column, carving, or arch. The architects seem to have been able to follow straight lines only; where curved lines were necessary, as in representing animals, they failed. But while the few existing hieroglyphics are inscrutable, and the quipus is a riddle, these plain, solid works, ruined though they are, express the genius, the industry, the social institutions, and the religion of an unknown people. They could cut stone more easily than timber, but they could not make letters. It is oftener asked than answered, 'How was it possible for this primitive race to transport the huge blocks in Sacsai-huaman?' Von Tschudi finds an answer in the social institutions of the old Americans — all the people assembled. But it is not possible for a block weighing a hundred tons to be carried by the maximum number of men who can get hold of it. They evidently had machinery which has not come down to us. Another question still harder is, How could they cut granite, porphyry, and alaymosca, without iron? That they were not acquainted with iron is proved, first, by the fact that no iron-mine shows signs of having been worked; second, no iron implements have been discovered; and third, there is no word in Quichua for iron, any more than for horse and cow. No copper alloy I have seen was sufficient. And if champi had been used, as many think, some particles of gold would have been left on the face of the stones. I have no theory but that of attrition, — the 'diamond-cut-diamond' principle."

SELF-MADE ARCHITECTS.

——, WIS.

TO THE EDITOR OF THE AMERICAN ARCHITECT AND BUILDING NEWS.

It is not surprising that so much confusion exists in the public mind as to what is requisite to constitute an architect, after reading W's. communication in the number of Nov. 17.

"We are not sorry," says the editor, "to receive the letter from W. which we print in another column." If not "sorry," there must at least have been a shade of disappointment in reading that which sounds like an attempt to argue against the necessity of special training for the student of architecture, the principal point enforced in the articles which W. had read with deep interest.

W. writes in one of the concluding paragraphs, "The indications are, that we have too much scientific and too little practical knowledge of architecture." How one can be attained without the other, is a point requiring elucidation. If one possesses the scientific knowledge, he knows; and if he knows, he has the practical knowledge, has he not?

"The sciences are taught; the practical is only acquired by experience," again writes W. These terms, scientific and practical, are much confused in many minds. Nothing is now classed as a science, that rests simply upon theory. Verification by experiments, knowledge of the fact, is exacted. The word "science" means, knowledge.

It seems clearly evident that one of the most important functions of the *American Architect* is that of teaching the public how to distinguish pretender from possessor in architectural knowledge, whatever it be called, scientific or practical; and of rigorously insisting that he who pretends to be qualified by advertising himself as an architect, by putting out his sign, or otherwise, shall give some guaranty to the public that he is so qualified. Scarcely one man in a thousand, outside of the profession and such trades and professions as are immediately connected with it, have any thing like a correct idea of the duties of an architect. Even that class who chiefly employ architects, the wealthy, who are usually the more intelligent, have a very limited comprehension of the necessary qualifications for an architect. When, therefore, an effort is made to instruct the public how to discriminate between the qualified and unqualified, a general support by the duly qualified among the profession is expected.

No word has been uttered in the articles on technological education, against "persistent private study;" but rather, in spirit at least, this has been insisted upon, as without it the schools would be of little avail.

The interrogation of W. in the third paragraph sounds a little sentimental: "Would you drive the poor out of the profession, and close your doors against them? Should you not rather extend the helping hand to struggling merit, and by pointing out a judicious course of study to those who are not able to pursue any other, lift them to that position which nature designed them to occupy?"

The first part of the paragraph is answered by the editor, and unanimously seconded by the action of the profession. The last part, concerning nature's designs, has been well answered recently by a thorough student of nature's workings. "Nature never selects, never accepts or rejects, knows nothing about duties, nothing about fitness or unfitness. Nature simply obeys laws."

The architectural guild is not a moneyed corporation, that accepts or rejects a member on account of wealth or poverty. It should be, however, rich in lore. The "poor" *pretenders* should be driven out, and the door closed against them. But what an exodus would that be!

Whoever heard of a physician crying out for some one to "champion that class" of physicians "who owe none of their unquestioned ability and skill to any school"? And yet only a few weeks since we were told, by one who generally knows what he talks about, that "He [the architect] has far more to do with the health and usefulness and long life of the family which he shelters than the physician can ever have." This extract is from a very "practical" kind of talk, although it may not be of much weight with W., as the talker's subject was Sanitary Science, and he emphasized the necessity of more knowledge, and deplored the lack of "scientific" accuracy upon this subject. W. perhaps likes the practical Ruskin better. "Fundamental principles of true architecture" may be to some extent a "natural gift," and art may be "a gift of heaven;" but the recipients often find themselves rather oppressed than otherwise unless the aid of teachers is available to direct them in the turning of such gifts to practical account. Those of our profession who unfortunately were born before technical schools of architecture were, are sensible of the many headaches which might have been spared us if the schools had come before us.

Through this letter, if published, W. will hear, as he has desired to do, from a "self-made," who has been wishing for the past forty years that some one else had lent a hand in the making.

B.

A NEW CEMENT.

NEW YORK.

TO THE EDITOR OF THE AMERICAN ARCHITECT.

Dear Sir, — The following formula for cement has been very successfully used. The product is of very great strength; and the materials may be obtained where other cement cannot.

One heaped bushel of mortar made in the usual way for brickwork, add 3½ quarts of iron scales, 1½ quarts of molasses; to be mixed in these proportions in quantity that can be used the same day.

Yours very truly, EMLEN T. LITTELL.

NOTES AND CLIPPINGS.

THE COST OF CONTESTING A CONTRACT. — John B. Green took a contract in 1871, bids for which had not been publicly invited, to lay 48-inch pipe from Forty-Second Street to Pearl Street, New York, The first instalment falling due, Controller Green refused to pay it, on the ground that the contract was illegally let. The Court of Appeals decided it was lawful. Meanwhile the work had been completed by the city. Green then brought suit for loss of profits, laying his damages at $50,000, but in his bill of particulars only stated $24,000. The city's own experts reported that the loss was over $40,000. The city assented to judgment for $18,000 and interest, and such judgment for $25,775 has been entered before Judge Barrett, in the Supreme Court Circuit.

INDUSTRIAL ART AT PHILADELPHIA. — The following is the chief part of the programme of an institute about to be organized at Philadelphia, with the object of furthering the industrial arts and sciences: Free public meetings, where important inventions may be illustrated, and interesting topics presented and discussed: free public lectures, having reference to the industrial arts; free classes in drawing and other useful arts; a free library and reading-room; free examination, tests and reports concerning new inventions; free advice and pecuniary aid to inventors; a free museum of models, drawings, and illustrative materials and manufactures. The project has been in process of development for two years past, and the institute is expected shortly to begin operations under the direction of Professor R. Grimshaw of the *Polytechnic Review*.

A FIRE CAUSED BY QUICKLIME. — The Ocean House at Long Branch, N.J., a new hotel, nearly completed, was nearly destroyed by fire, Nov. 25, in an unusual manner. The high tides overflowed the Shrewsbury River, and the water ran into the hotel cellar, in which were stored about thirty barrels of lime. The lime slacked and set fire to the barrels; and the building would soon have been in flames except for the timely assistance of the life-saving crew, which is stationed near the hotel.

FALL OF A HOUSE IN PHILADELPHIA. — On the west side of Eighth Street below Tasker, Philadelphia, a three-story brick house which has been in course of erection was roofed in Thursday, Nov. 22, and on Thursday night about half-past ten it toppled over with a terrific crash. It fortunately did no damage, as it fell on a vacant lot to the southward. The house was built of first-class material, but now there is nothing standing except the press-brick front. The cause of the accident was the undermining of the foundation walls by a trench that was digging for the introduction of water-pipes.

A SOLDIERS' MONUMENT FOR WARSAW, N.Y. — The New England Granite Works in Hartford recently filled an order from Warsaw, N.Y., for a soldiers' monument. The base which is over nine feet square rests upon a platform three feet high; and from four angles extend bastions, each of which supports a trophy of the war in the shape of a brass cannon six feet long. A pedestal twelve and a half feet high rests upon the square base, and upon this stands a finely-proportioned Corinthian column with cap and base; the monument being finished with a crowning figure of a soldier. The statue is of heroic size, and the monument from the ground line has an altitude of fifty-five feet. It is wholly of Westerly granite from the quarries in Rhode Island, with the exception of the figure of the soldier which is executed in bronze. The four faces of the die will be highly polished, and will bear in incised letters appropriate dedicatory inscriptions; the frieze beneath the cornice being inscribed with mottoes. This specimen of work occupied a prominent position near Machinery Hall at the Centennial Exhibition, and together with others secured for the New England Granite Works the first premium.

LESSONS IN OFFICE-WORK. — The second, third, and fourth of the evening lessons in office-work and specifications, which we spoke of as having begun at the Institute of Technology, Boston, have now been given in accordance with the scheme explained in our issue of Nov. 17. The first of these was occupied with a fuller explanation of the method of estimating by squaring and cubing attributed to M. Lesonfacher, and to a discussion of the form of specifications, in which the method of writing them in the form of a list of items, setting each phrase on a separate line, was explained and advocated as favoring the proper classification of the material, facilitating interlineation and alteration, and making it easier for the reader to find what he is looking for. This was illustrated by the half-dozen pages of outline specification, copied by the "papyrograph" process, which were distributed to those of the class who proposed to work. At this lesson were brought in a number of memoranda in regard to the conduct of office-business, as had been requested.

The next lesson was occupied with a discussion of these memoranda and their comparison with similar papers in use in England and Scotland; a new portion of specification, covering the subjects of stone-work and stone-cutting, was given out; and the material given out at the previous lecture with the additional matter in regard to piling and foundations that had been collected by the class was handed over to a volunteer committee of three, to be reduced to shape, and reported upon at the next lesson. This lesson, the fourth of the series, was mainly taken up with the discussion of this report, additional specification being given out for study, and that given out the previous week being again handed over to a committee to be digested.

THE NEW ROMAN CATHOLIC CATHEDRAL, NEW YORK. — In compliance with an urgent appeal addressed by Cardinal McCloskey to the pastors of the various Roman Catholic Churches in the archdiocese of New York, collections were taken up on Sunday, Dec. 2, for the purpose of raising funds for the completion of the new cathedral on Fifth Avenue. An estimate of the amount collected, made at the office of the vicar-general of the archdiocese from partial returns, indicates that the total amount was between $18,000 and $20,000. It will require at least $100,000 to place the church in a condition to be dedicated, and about $500,000 to complete the spires and perfect the interior decoration. When the church is dedicated its revenues will be sufficient to complete it. In the mean time it is intended to hold fairs for the purpose of raising money.

STATUE OF THE MAID OF ORLEANS. — A Rouen journal announces that a stone statue, bearing on its pedestal the inscription, *Jeanne Darcques dite la Pucelle d'Orleans*, has been found in a very old farm-house situated in the village of Toussaint, near Fecamp. The statue is undoubtedly ancient; but it is so covered over with a thick layer of plaster, that its artistic merits can scarcely be judged at present.

THE APPOINTMENT OF A CONSULTING PLUMBER. — Of four cases of diphtheria in one house in Williamsburgh, N.Y., three proved fatal. The sanitary inspector, who examined the house after the deaths, found that the sewer-pipes and sinks were untrapped, and that the cellar was unclean. The inspector suggests that the license of every plumber who is found to have done any defective work be revoked, and in cases where such neglect has led to death, that he be criminally prosecuted. The Board of Health has appointed a consulting plumber to examine the plumbing-work in houses where its effect on the health of the occupants is under consideration.

IRON PIERS AT THE SEASIDE. — Iron piers are to be constructed at Long Branch and also at Coney Island. As proposed they will consist of steel beams and floor, resting upon iron columns braced to each other. To protect the structures from the sea, a breakwater will be anchored just outside of them, which will consist of long iron cylinders with projecting plates like paddle-wheels, so arranged that as a sea strikes them they will turn, thus reducing its force. The pier to be built at Long Branch will have a carriage-drive in the centre 30 feet wide, with a sidewalk 10 feet wide on each side. The work will be begun in the spring.

THE BELLS OF ST. MICHAEL'S, CHARLESTON, S.C. — In colonial times the British Government presented the colony of South Carolina a chime of bells which were hung in the steeple of St. Michael's Church at Charleston, a building which was designed by Mr. Gibson, who was, we believe, a pupil of Sir Christopher Wren, and which still is. When the British evacuated the city in December, 1782, the bells were sent back to England, where they still are. Lately an English merchant has offered to return them; and a bill has been introduced in the Senate providing for the remission of all duties upon them. What will be done with them on their arrival we do not know, for St. Michael's Church already has a peal of bells. Another story is that the bells were purchased by a Mr. Ryhineu, and sent back to Charleston in 1783, and were rehung in their old place, where they remained till they were, in 1861, removed to Columbia for safety; and when Sherman burned that city they were injured beyond all further use, and moreover two of them were stolen.

MR. J. Q. A. WARD, the sculptor, is at work upon six statues for the State House at Hartford. They will represent Agriculture, Law, Commerce, Science, Music, and Equity.

TEMPLE BAR. — An official notice is published by the city authorities of London, inviting proposals for the immediate removal of Temple Bar.

THE CHURCH AND THE ITALIAN GOVERNMENT. — Cardinal Simeoni has charged the Italian Government with violating the understanding reached in 1870 by the papal party and the government, in that certain churches had been seized by the government. The facts are these: There are 321 churches in Rome, six of which have been taken possession of by the government. Three of these, and all three unimportant, were torn down in 1875 to widen a street. The Church of St. Antonio, near Santa-Maria-Maggiore, in which there are good mosaics, is being pulled down for the enlargement of the military hospital. The chapel of St. Martha, known as the church in which Ignatius Loyola first preached when he went to Rome, is not used for divine worship. And an oratory which stood beside the Transteverine Church of St. Maria della Scala is to be used as a gymnasium for the boys of that quarter.

A PAPER CHIMNEY. — At Breslau, Prussia, a chimney fifty feet high has been made of paper. Chemical preparations preserve it from injury by fire or water.

ÉCOLE DES BEAUX-ARTS, PARIS. — There are at the *École des Beaux-Arts* at Paris in the first class in architecture, 185 students; in the second class there are 389 students. There are besides 210 students in painting, and 108 students in sculpture.

THE "DECORATIVE" MANIA. — There is no use in getting into a heat over drawing-room furniture. We shall spare ourselves much discussion if we can agree upon certain definitions. In the first place, "art decoration," as it is commonly used, is a confusion of terms. The most of our decoration has nothing to do with "art;" it is merely following a fashion, indulging in a taste for ornament, and may be guided by not the least knowledge or feeling for art. There is no art in sticking a lot of colored figures upon a jar, and putting on a coat of varnish. There is no art in painting a jar, or decorating a jar, unless the decorator is an artist. We are in danger of ruining the substance for mere show. The ornamenting of our houses is all right, if we don't babble too much about art and æsthetic culture, and fancy that we are artistic when we have not learned the first rudiments of real art. The sin of the age, especially here in America, is superficiality. And this decorative mania illustrates it. A short cut to art seems to have been discovered, just as years ago a short cut was found to painting in what was called "Grecian painting," — a disease that raged most in the rural districts, and left its "pit-marks" in so many desolate homes. Now it seems possible for everybody to be an "art decorator" in her own house, and in the houses of all her friends. In one respect we do not object to this, as we shall say presently; but the danger is, that it will have a mere run, like the fashion of a garment, and pass away without leaving any marks of real cultivation. It is a superficiality taking the place of real culture, which can only be obtained by patient study. — *Exchange.*

A JAPANESE PALACE. — The imperial residence at Kioto, Japan, which has preserved its original character for a thousand years, is about to be reduced in size, several buildings levelled, and flower-gardens in foreign style planted on their site.